

CLAIMS

I Claim:

- 1 1. A disinfecting air filter comprising:
2 on an inlet side an iodinating layer comprising an air permeable
3 material impregnated with elemental iodine; and
4 on an outlet side an iodine capture layer comprising a sufficient
5 thickness of porous polyvinyl acetal polymer to bind
6 substantially all of the iodine vapors passing through.
- 1 2. The disinfecting air filter of Claim 1 further comprising a
2 particulate capturing layer disposed between the iodinating layer and the iodine
3 capture layer.
- 1 3. The disinfecting air filter of Claim 2, wherein the particulate
2 capturing layer comprises a HEPA filter.
- 1 4. The disinfecting air filter of Claim 1 further comprising a
2 protective layer on the inlet side of the iodinating layer.
- 1 5. The disinfecting air filter of Claim 1 further comprising a
2 protective layer on the outlet side of the iodine capture layer.

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1 6. The disinfecting air filter of Claim 5 further comprising a
2 visual indicator of saturation of the iodine capture layer.

1 7. The disinfecting air filter of Claim 1, wherein the iodine
2 capture layer further comprises a humidifying agent.

1 8. The disinfecting air filter of Claim 7, wherein the humidifying
2 agent is selected from the group consisting of polyethylene glycol, propylene
3 glycol, ethylene glycol, and glycerol.

1 9. A disinfecting air filter comprising:
2 on an inlet side an iodinating layer comprising an air permeable
3 material impregnated with elemental iodine; and
4 on an outlet side an iodine capture layer comprising a sufficient
5 thickness of an iodine-binding material to bind substantially
6 all of the iodine vapors passing through.

1 10. The disinfecting air filter of Claim 9, wherein the iodine-
2 binding material is selected from the group consisting of anion exchange resin,
3 ion exchange cellulose and poly vinyl acetal polymer.

1 11. The disinfecting air filter of Claim 9, wherein the iodine-
2 binding material is selected from the group consisting of anion exchange resin,
3 ion exchange cellulose and poly vinyl acetal polymer.

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1 12. The disinfecting air filter of Claim 11, wherein the anion
2 exchange resin is selected from the group consisting of derivatized polystyrene,
3 derivatized cross-linked dextran polymer and derivatized agarose polymer.

1 13. The disinfecting air filter of Claim 9, wherein the particulate
2 capturing layer comprises a HEPA filter.

1 14. The disinfecting air filter of Claim 9 further comprising a
2 protective layer on the inlet side of the iodinating layer.

1 15. The disinfecting air filter of Claim 9 further comprising a
2 protective layer on the outlet side of the iodine capture layer.

1 16. The disinfecting air filter of Claim 9 further comprising a
2 visual indicator of saturation of the iodine capture layer.

1 17. The disinfecting air filter of Claim 9, wherein the iodine
2 capture layer further comprises a humidifying agent.

1 18. The disinfecting air filter of Claim 17, wherein the
2 humidifying agent is selected from the group consisting of polyethylene glycol,
3 propylene glycol, ethylene glycol, and glycerol.

1 19. The disinfecting air filter of Claim 9, wherein the filter forms a
2 surgical mask.

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- 1 20. The disinfecting air filter of Claim 9, wherein the filter forms a
2 vacuum cleaner bag.

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